CLMPTO

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02/04/05

1. – 14. (Canceled)

15. (Currently Amended) A producing method for producing a carbon structure, comprising the steps of:

applying a voltage between two electrodes having forefront portions opposed to each other; and

generating discharge plasma in a discharge area between the electrodes;

wherein a magnetic field having multidirectional lines of magnetic force is applied in an area where the discharge plasma is generated to form a magnetic field space so as to be brought into an occluded state by the magnetic field.

16. (Canceled)

17. (Original) The method according to claim 15, wherein the discharge plasma generated in the discharge area is arc plasma.

18. (Currently Amended) The method according to ~~claim 16~~ claim 15, wherein one of a plurality of permanent magnets and a plurality of electromagnets are disposed to apply the magnetic field so that the one surround the discharge area along a traveling direction of a discharge current and all identical poles of the one face the discharge area to generate the magnetic field.

19. (Currently Amended) The method according to ~~claim 16~~ claim15, wherein one of a plurality of permanent magnets and a plurality of electromagnets are disposed to apply the magnetic field so that the one surround the discharge area along a traveling direction of a discharge current and alternately different poles of adjacent ones of the one face the discharge area to generate the magnetic field.

20. (Currently Amended) The method according to ~~claim 16~~ claim 15, wherein one coil having a central axis, which is substantially coincide with a traveling direction of a discharge current to generate the magnetic field.

21. (Original) The method according to claim 15, wherein in the discharge plasma generating step, magnetic flux density at an edge of a forefront portion of an electrode of the two opposed electrodes for generating the discharge plasma is not lower than 10^{-5} T and not higher than 1 T.

22. (Original) The method according to claim 15, wherein in the discharge plasma generating step, discharge current density at the time of generating the discharge plasma is not lower than 0.05 A/mm^2 and not higher than 15 A/mm^2 with respect to an area of a forefront portion of an electrode for generating the discharge plasma.

23. (Original) The method according to claim 15, wherein in the voltage applying step, the voltage applied to the electrodes is not lower than 1 V and not higher than 30 V.

24. (Original) The method according to claim 15, wherein in the voltage applying step, the voltage applied to the electrodes is a DC voltage.

25. (Original) The method according to claim 24, wherein an area of a forefront portion of a cathode of the two opposed electrodes is not larger than an area of a forefront portion of an anode thereof.

26. (Original) The method according to claim 15,

wherein material of the electrodes is one of carbon and material which contains carbon; and

electric resistivity of the material is not lower than 0.01 Ω·cm and not higher than 10 Ω·cm.

27. (Original) The method according to claim 15, wherein pressure of an atmosphere in the discharge area is not lower than 0.01 Pa and not higher than 510 kPa.

28. (Original) The method according to claim 15, wherein an atmosphere in the discharge area is a gas atmosphere containing at least one gas selected from the group of air, helium, argon, xenon, neon, nitrogen and hydrogen.

29. (Original) The method according to claim 15, wherein gas made of material containing carbon is included in an atmosphere in the discharge area.